User Manual

DVI with Stereo/Digital Audio to HDMI™ Format Converter
AT-HD610

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INTRODUCTION

Atlona Technologies AT-HD610 DVI Stereo/Digital Audio to HDMI™ Format Converter provides an easy and instant approach for converting digital video (DVI-D) and either digital audio (S/PDIF) or analog stereo audio to digital HDMI™ signal. With this module, DVI based devices such as Computers (Mac/PC) with S/PDIF or analog stereo audio can readily connect to HDMI™ Display. The HD610 is not only a format converter but also an audio embedder, it will embed digital or analog audio into HDMI™ output and sync it with video.

FEATURES

- Silicon Image Chip-Sets allow 99.99% compatibility with all the AV gear (we only use Best)
- HDMI™ and HDCP 2.0 compliant
- DVI video bandwidth up to 165MHz
- Coaxial S/PDIF and Stereo analog audio input supported

PACKAGE CONTENTS

- 1x AT-HD610 unit
- 1x 5V DC locking power supply unit (110/240v universal)
- 1x User's manual

EDID LEARNING

1. Turn on the AT-HD610. Connect the HDMI™ display to **HDMI OUTPUT**.
2. Dial the rotary control **MODE** counterclockwise (↺) from 0 to 7.
3. The green **STATUS** LED will be bright and then dark to indicate the EDID learning is complete.
4. Dial the rotary control **MODE** clockwise (↻) from 7 to 0. DO NOT let the rotary control arrow pass 6, which will erase the just learned EDID and reset to default EDID.

NOTICE

1. Only HDMI™ enabled TV sets with underscan/overscan* support, the full active video can be accurately displayed. Some HDMI™ HDTV sets may not support this feature. If underscan/overscan* is NOT supported, the top, bottom, left and right border of the active video may be screened, and the S/PDIF audio may not sound right.
2. Analog stereo audio can merely support 2-channel audio. This version does NOT support 8-channel analog audio applications.
3. S/PDIF audio input can support 2 out of the 8-channel audio input.
4. S/PDIF only supports 48kHz audio sample rate. Other than this rate, the input digital audio should be adjusted to 48kHz in order to get audio signal correctly sent.

**The underscan mode displays the full video frame, which reveals content on the edge that is recorded. In overscan, the field monitor zooms in to the area that would be visible on most televisions. Set the field monitor to underscan if your video will be viewed on a computer monitor or shown with a projector and also to look for light stands, microphones, and other unwanted objects on the edges of your shot. Set it to overscan to see how the video will look on a television.*

SPECIFICATIONS

Model Name		AT-HD610
Technical		
Role of usage		Converter
HDMI™ compliance		HDMI™
DVI compliance		DVI 1.1
HDCP compliance		Yes
Video bandwidth		Single-link 165MHz (4.95Gbps)
Video support		1080p60, WUXGA 1920x1200@60Hz, UXGA 1600x1200@60Hz
Audio support		Stereo audio (analog and digital)
PCB stack-up		4-layer board (impedance control – differential 100Ω; single 50Ω)
Input TMDS signal		1.2 Volts (peak-to-peak)
Input DDC signal		5 Volts (peak-to-peak, TTL)
ESD protection		[1] Human body – ±19kV (air-gap discharge) & ±12kV (contact discharge) [2] Core chipset – ±8kV
Input		1x DVI + 1x RCA + 1x 3.5mm
Output		1x HDMI™
HDMI™ connector		Type A (19-pin female)
DVI connector		DVI-D (29-pin female digital only)
RCA connector		Coaxial S/PDIF digital audio (PCM 48kHz)
3.5mm connector		Analog stereo audio
Control switch		2-pin DIP switch for mode selection
Mechanical		
Housing		Metal enclosure
Dimensions [L x W x H]	Model	125 x 95 x 25mm (4.9” x 3.7” x 1”)
	Package	175 x 270 x 80mm (6.9” x 10.6” x 3.1”)
Weight	Model	350g (12 oz)
	Package	815g (1.8 lbs)
Fixedness		Wall-mounting housing and latch-locking power jack
Power supply		5V DC
Power consumption		4 Watts (max)
Operation temperature		0~40°C (32~104°F)
Storage temperature		-20~60°C (-4~140°F]
Relative humidity		20~90% RH (no condensation)

PANEL DESCRIPTION

1. Front Panel

1. **S/PDIF IN:** 2-channel digital S/PDIF audio input
2. **STEREO IN:** 2-channel analog audio input
3. **DVI-D INPUT:** Connect to a DVI source with a DVI cable

2. Rear Panel

1. **HDMI OUTPUT:** Connect to a HDMI™ display with a HDMI™ cable
2. **STATUS:** Bright – in operation and connected to a HDMI™ display;
   Blink – in EDID learning process;
   Dim – either not in operation or in operation but connected to a DVI display
3. **MODE:** 0 = analog audio mode; 1 = S/PDIF audio mode; 2-5 = not in use; 6 = use default EDID
   7= learn EDID from connected HDMI™ display
4. **POWER:** Power on/off indicator
5. **+5V DC:** Connect to a 5V DC power supply unit

CONNECTION AND INSTALLATION

1. Connect a DVI source to the DVI input port of the AT-HD610 with a DVI cable.
2. Connect the S/PDIF or stereo audio source to RCA jack or 3.5mm earphone jack respectively.
3. Connect a HDMI™ display to the HDMI™ output port of the AT-HD610 with a HDMI™ cable.
4. Turn on all devices and finish the installation.

SAFETY INFORMATION

Safeguards

To reduce the risk of electric shock, do not expose this product to rain or moisture

Do not modify the wall plug. Doing so will void the warranty and safety features.

If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.

This equipment should be installed near the socket outlet and the device should be easily accessible in the case it requires disconnection.

Precautions

FCC regulations state that any unauthorized changes or modifications to this equipment, not expressly approved by the manufacturer, could void the user's authority to operate this equipment.

Operate this product using only the included external power supply. Use of other power supplies could impair performance, damage the product, or cause fires.

In the event of an electrostatic discharge this device may automatically turn off. If this occurs, unplug the device and plug it back in.

Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful of plug-ins or cord exit points from this product.

Avoid excessive humidity, sudden temperature changes or temperature extremes.

Keep this product away from wet locations such as bathtubs, sinks, laundries, wet basements, fish tanks, and swimming pools.

Use only accessories recommended by Atlona to avoid fire, shock, or other hazards.

Unplug the product before cleaning. Use a damp cloth for cleaning and not cleaning fluid or aerosols.
Such products could enter the unit and cause damage, fire, or electric shock. Some substances may also mar the finish of the product.

Never open, remove unit panels, or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause damage to your AT-HD620. Opening the product will void the warranty.

Do not attempt to service the unit. Disconnect the product and contact your authorized Atlona reseller or contact Atlona directly.

Atlona, Inc. (“Atlona”) Limited Product Warranty Policy

Coverage

Atlona warrants its products will substantially perform to their published specifications and will be free from defects in materials and workmanship under normal use, conditions and service.

Under its Limited Product Warranty, Atlona, at its sole discretion, will either:

A) repair or facilitate the repair of defective products within a reasonable period of time, restore products to their proper operating condition and return defective products free of any charge for necessary parts, labor and shipping

OR

B) replace and return, free of charge, any defective products with direct replacement or with similar products deemed by Atlona to perform substantially the same function as the original products

OR

C) refund the pro-rated value based on the remaining term of the warranty period, not to exceed MSRP, in cases where products are beyond repair and/or no direct or substantially similar replacement products exist.

Repair, replacement or refund of Atlona’s products is the purchaser’s exclusive remedy and Atlona’s liability does not extend to any other damages, incidental, consequential or otherwise.

This Limited Product Warranty extends to the original end-user purchaser of Atlona’s products and is non-transferrable to any subsequent purchaser(s) or owner(s) of these products.

Coverage Periods

Atlona’s Limited Product Warranty Period begins on the date of purchase by the end-purchaser. The date contained on the end-purchaser ‘s sales or delivery receipt is the proof purchase date.

Limited Product Warranty Terms – New Products

- 10 years from proof of purchase date for hardware/electronics products purchased on or after June 1, 2013
- 3 years from proof of purchase date for hardware/electronics products purchased before June 1, 2013
- Lifetime Limited Product Warranty for all cable products

Limited Product Warranty Terms – Refurbished (B-Stock) Products

- 3 years from proof of purchase date for all Refurbished (B-Stock) hardware and electronic products purchased on or after June 1, 2013

Remedy

Atlona recommends that end-purchasers contact their authorized Atlona dealer or reseller from whom they purchased their products. Atlona can also be contacted directly. Visit www.atlona.com for Atlona’s contact information and hours of operation. Atlona requires that a dated sales or delivery receipt from an authorized dealer, reseller or end-purchaser is provided before Atlona extends its warranty services. Additionally, a return merchandise authorization (RMA) and/or case number, is required to be obtained from Atlona in advance of returns.

Atlona requires that products returned are properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization or case number will be refused. Atlona, at its sole discretion, reserves the right to reject any products received without advanced authorization. Authorizations can be requested by calling 1-877-536-3976 (US toll free) or 1-408- 962-0515 (US/international) or via Atlona’s website at www.atlona.com.

Exclusions

This Limited Product Warranty excludes:

- Damage, deterioration or malfunction caused by any alteration, modification, improper use, neglect, improper packing or shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature.
- Damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Atlona to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product.
- Equipment enclosures, cables, power supplies, batteries, LCD displays, and any accessories used in conjunction with the product(s).
- Products purchased from unauthorized distributors, dealers, resellers, auction websites and similar unauthorized channels of distribution.

Disclaimers

This Limited Product Warranty does not imply that the electronic components contained within Atlona's products will not become obsolete nor does it imply Atlona products or their electronic components will remain compatible with any other current product, technology or any future products or technologies in which Atlona's products may be used in conjunction with. Atlona, at its sole discretion, reserves the right not to extend its warranty offering in instances arising outside its normal course of business including, but not limited to, damage inflicted to its products from acts of god.

Limitation on Liability

The maximum liability of Atlona under this limited product warranty shall not exceed the original Atlona MSRP for its products. To the maximum extent permitted by law, Atlona is not responsible for the direct, special, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal theory. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

Exclusive Remedy

To the maximum extent permitted by law, this limited product warranty and the remedies set forth above are exclusive and in lieu of all other warranties, remedies and conditions, whether oral or written, express or implied. To the maximum extent permitted by law, Atlona specifically disclaims all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. If Atlona cannot lawfully disclaim or exclude implied warranties under applicable law, then all implied warranties covering its products including warranties of merchantability and fitness for a particular purpose, shall provide to its products under applicable law. If any product to which this limited warranty applies is a "Consumer Product" under the Magnuson-Moss Warranty Act (15 U.S.C.A. §2301, ET SEQ.) or other applicable law, the foregoing disclaimer of implied warranties shall not apply, and all implied warranties on its products, including warranties of merchantability and fitness for the particular purpose, shall apply as provided under applicable law.

Other Conditions

Atlona's Limited Product Warranty offering gives legal rights, and other rights may apply and vary from country to country or state to state. This limited warranty is void if (i) the label bearing the serial number of products have been removed or defaced, (ii) products are not purchased from an authorized Atlona dealer or reseller. A comprehensive list of Atlona's authorized distributors, dealers and resellers can be found at www.atlona.com .

Atlona, Inc Product Registration

Thank you for purchasing this Atlona product. - We hope you enjoy it and will take an extra few moments to register your new purchase.

Registration creates an ownership record if your product is lost or stolen and helps ensure you'll receive notification of performance issues and firmware updates.

At Atlona we respect and protect your privacy, assuring you that your registration information is completely secure. Atlona product registration is completely voluntary and failure to register will not diminish your limited warranty rights.

To register go to: http://www.atlona.com/registration